

WHAT IS CLAIMED IS:

1. A UVR LED light projection apparatus for irradiating a subject,  
comprising:

5 (a) a plurality of light emitting diodes configured to emit ultraviolet radiation,  
the plurality of diodes arranged in a matrix; and

(b) a power modulation control unit in communication with the plurality of  
diodes;

wherein the power modulation control unit is configured to energize and cause the  
10 diodes to emit light and thereby irradiate the subject with ultraviolet radiation, said  
ultraviolet radiation having an intensity sufficient to cause material physical change in  
said subject.

2. The UVR LED light projection apparatus of claim 1, wherein the subject  
15 is human skin;

the material physical change is a tanning of the skin; and

the amount and type of UVR projected by the plurality of UV LED's may be  
varied by the power modulation control unit responsive to information input into the  
power modulation control unit.

20

3. The UVR LED light projection apparatus of claim 2, wherein the plurality  
of ultraviolet radiation emitting diodes further comprise UVA light emitting diodes and

UVB light emitting diodes, and the power modulation control unit is further configured to select at least one relative intensity ratio of UVA diode intensity to UVB diode intensity.

4. The UVR LED light projection apparatus of claim 3, wherein the power  
5 modulation control unit is further configured to energize one or more of the plurality of diodes for at least one time period.

5. The UVR LED light projection apparatus of claim 4, wherein the power  
modulation control unit is further configured to energize one or more of the plurality of  
10 diodes responsive to an input parameter.

6. The UVR LED light projection apparatus of claim 2, wherein the matrix defines an undulating shape corresponding to a shape of a subject.

7. The UVR LED light projection apparatus of claim 2, wherein the matrix is  
15 attached to a deformable substrate, wherein the substrate may be deformed to conform to a shape of a subject.

8. A method for irradiating a subject with UVR from a plurality of light  
20 emitting diodes, comprising the steps of:

(a) arranging a plurality of light emitting diodes in a matrix, the plurality of diodes configured to emit ultraviolet radiation;

(b) providing a power modulation control unit in communication with the plurality of diodes;

(c) the power modulation control unit energizing and thereby causing the diodes to emit ultraviolet radiation light having an intensity sufficient to cause material  
5 physical change in a subject;

(d) irradiating a subject with said ultraviolet radiation light; and

(e) the irradiation of the subject with the ultraviolet radiation light causing a material physical change in said subject.

10 9. The method of claim 8, wherein the subject is human skin;  
the material physical change is a tanning of the skin; and further comprising the steps of:

inputting information into the power modulation control unit; and

the power modulation control unit varying an amount and type of UVR projected  
15 by the plurality of diodes responsive to the input information.

10. The method of claim 9, wherein the plurality of ultraviolet radiation emitting diodes further comprise UVA light emitting diodes and UVB light emitting diodes, and further comprising the step of the power modulation control unit selecting at  
20 least one relative intensity ratio of UVA diode intensity to UVB diode intensity.

11. The method of claim 10, further comprising the step of the power modulation control unit energizing one or more of the plurality of diodes for at least one time period.

5 12. The method of claim 11, further comprising the step of the power modulation control unit energizing one or more of the plurality of diodes responsive to an input parameter.

13. The method of claim 9, further comprising the step of forming the matrix  
10 into an undulating shape corresponding to a shape of a subject.

14. The method of claim 9, further comprising the steps of:  
attaching the matrix of diodes to a deformable substrate; and  
deforming the substrate to conform to a shape of a subject.

15

15. An article of manufacture comprising a computer usable medium having a computer readable program embodied in said medium, wherein the computer readable program, when executed on a computer, causes the computer to:

cause a power modulation control unit to energize a plurality of light emitting  
20 diodes, the diodes thereby emitting ultraviolet radiation having an intensity sufficient to cause material physical change in a subject.

16. The article of manufacture of claim 15, wherein the subject is human skin;  
the material physical change is a tanning the human skin; and  
the computer readable program, when executed on a computer, further causes the  
computer to cause the power modulation control unit to vary an amount and type of  
5 ultraviolet radiation projected by the plurality of responsive data input into computer.

17. The article of manufacture of claim 16, wherein the plurality of ultraviolet  
radiation emitting diodes further comprise UVA light emitting diodes and UVB light  
emitting diodes, and the computer readable program further causes the power modulation  
10 control unit to select at least one relative intensity ratio of UVA diode intensity to UVB  
diode intensity.

18. The article of manufacture of claim 16, wherein the computer readable  
program further causes the power modulation control unit to energize one or more of the  
15 plurality of diodes for at least one time period.